UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,947	09/26/2001	James Chi-Shun Tsiao	490.11	3725

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EXAMINER
SKED, MATTHEW J

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/964,947	TSIAO ET AL..
	Examiner	Art Unit	
	Matthew J. Sked	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 October 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,2,4,5,7-10,12 and 26-28</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,2,4,5,7-10,12 and 26-28</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

09/13/05 has been entered.

Response to Amendment

2.   The objection to claims 1 and 9 is withdrawn in view of the amendment filed

09/13/05.

3.   Applicant's arguments with respect to claims 1 and 26 have been considered but

are moot in view of the new ground(s) of rejection, necessitated by amendment.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   Claims 4-13 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claims 4, 5, and 7-9 recite the limitation "the piece of information". There is

insufficient antecedent basis for this limitation in the claim. Claim 1 does not mention "a

piece of information". For the purposes of examination it will be assumed that the fourth

limitation should read –a natural-language processor configured to process the mode of

information to extract from the database a piece of information--.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Kanevsky et al. (U.S. Pat. 6,434,520) in view of Pustejovsky et al. (U.S. Pat. Pub.

2001/0037328A1).

As per claim 1, Kanevsky teaches a handheld personal assistant operated by a

user comprising:

a categorizer configured to store a plurality of data items in a database organized

by one or more categories of information (indexes audio segments based upon

background noise, identity of speaker and content, Fig. 2A and 2B);

a voice-recognizer configured to recognize the user's voice and transform an

expression input by the user into a different mode of information (generates a spoken

voiceprint of the user, col. 9, lines 9-17);

a context processor configured to determine the category of information corresponding to the expression input by the user, based on one of a direct context specified by the user or an inferred context based on the expression input (performs natural language processing for determining the context in order to search user queries, col. 7, lines 11-15); and

a natural-language processor configured to process the mode of information to extract from the database a piece of information (retrieves segments according to the natural language topic and speaker's voiceprint, col. 9, lines 9-17 and col. 9, line 60 to col. 10 line 9).

Kanevsky does not teach wherein each category of information includes one or more subcategories of information that are linked in a hierarchical structure and wherein if there is ambiguity with the mode of information to extract from a first category of information, the natural-language processor provides a first response to the user having a plurality of options, the natural-language processor then provides a second response based upon the user's selection from the options.

Pustejovsky teaches a knowledge acquisition system with a categorical hierarchy structure (classifications with subclassifications, paragraph 33) and wherein if there is ambiguity with the mode of information to extract from a first category of information, the natural-language processor provides a first response to the user having a plurality of options, the natural-language processor then provides a second response based upon the user's selection from the options (ambiguous queries cause the user to be prompted to indicate the category to use for the query, paragraph 44).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Kanevsky wherein each category of information includes one or more subcategories of information that are linked in a hierarchical structure and wherein if there is ambiguity with the mode of information to extract from a first category of information, the natural-language processor provides a first response to the user having a plurality of options, the natural-language processor then provides a second response based upon the user's selection from the options as taught by Pustejovsky because it would give a more robust searching system and ensures queries are correct prior to searching hence removing redundancy.

8.   Regarding claim 2, Kanevsky teaches the processor analyzes the expression grammatically and semantically to transform at least part of the expression into at least one instruction (natural language understanding analyzes text both grammatically and semantically, col. 6 line 62 to col. 7, line 20).

9.   Regarding claim 4, Kanevsky teaches that the processor can still extract the piece of information even if the expression is ambiguous (natural language understanding determines the context hence determining the meaning of a word that would be ambiguous, col. 6 line 62 to col. 7, line 20).

10.   Claims 5, 7-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanevsky in view of Pustejovsky and taken in further view of Sasai et al. (U.S. Pat. 6,510,412).

As per claim 5, neither Kanevsky nor Pustejovsky teach the piece of information is selected from a list consisting of a personal address book, a to-do-list and a calendar.

Sasai suggests the piece of information selected from a list consisting of a personal address book (information is name and phone number, col. 6, lines 30-34) and a to-do-list (list of entries on display, Fig. 1, element 3-2).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Kanevsky and Pustejovsky to have the piece of information be a personal address book as taught by Sasai because it would allow the user to locate names and addresses quickly.

11.   As per claim 7, Kanevsky teaches outputting the piece of information (Fig. 4A, element 410). However, Kanevsky does not specifically state displaying the piece of information.

Pustejovsky teaches displaying the retrieved piece of information (Fig. 6A).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Kanevsky to display the piece of information as taught by Pustejovsky because it would allow the user to visualize the results.

12.   As per claim 8, Kanevsky teaches wherein said personal assistant further includes a voice synthesizer that transforms the piece of information into sound to communicate to the person (retrieves indexed audio files, col. 8, line 49 to col. 9, line 3).

13.   As per claim 9, Kanevsky teaches:

the piece of information was entered into the assistant by the user (audio stream may be conversational speakers, col. 2, lines 57-66); and

wherein the personal assistant further includes a formatting process that

transforms the expression input by the user into a question with one or more phrases

corresponding to the one or more categories of information, and a transformation

process the converts the question into an instruction comprising a query to the database

(natural language understanding unit determines the issue or topic of the query and

uses this issue to generate a search, col. 7, lines 11-20).

14. As per claim 10, Kanevsky teaches the piece of information was entered through

voice (audio stream may be conversational speakers, col. 2, lines 57-66).

15. Claim 12 is rejected for the same reasons as claim 1.

16. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Sasai in view of Pustejovsky.

As per claim 26, Sasai teaches a method for obtaining information for a requestor

interacting with a handheld computing device, said method comprising:

storing a plurality of data items in a database organized by one or more

categories of information (private information storage unit stores the information in

association with the user intention index and conceptual index hence categorizing the

data, col. 6, lines 24-34 and Fig. 5);

receiving an input voice expression from the requestor and converting the input

voice expression into a text string (interfacing unit, col. 4, lines 28-33);

processing the text string using grammatical and semantic processing to

determine a natural language meaning for the text string (sentence structure analysis,

semantic analysis and intention extraction unit, col. 4, lines 45-50, lines 66-67 and col. 5, lines 1-15);

determining a category of information corresponding to the input by the requestor based on one of a direct context specified by the requestor or an inferred context based on the expression input (concept extraction unit and intention interpretation unit process the text through natural language processing hence inferring the context of the input, col. 4, line 45 to col. 5, line 15); and

processing the natural language meaning for the text string to extract, from the database, a piece of information from the category of information (the information management unit performs retrieval of data from private information storage unit, col. 5, lines 16-30).

Sasai does not teach wherein each category of information includes one or more subcategories of information that are linked in a hierarchical structure and wherein if there is ambiguity with the mode of information to extract from a first category of information, the natural-language processor provides a first response to the user having a plurality of options, the natural-language processor then provides a second response based upon the user's selection from the options.

Pustejovsky teaches a knowledge acquisition system with a categorical hierarchy structure (classifications with subclassifications, paragraph 33) and wherein if there is ambiguity with the mode of information to extract from a first category of information, the natural-language processor provides a first response to the user having a plurality of options, the natural-language processor then provides a second response based upon

the user's selection from the options (ambiguous queries cause the user to be prompted to indicate the category to use for the query, paragraph 44).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Sasai wherein each category of information includes one or more subcategories of information that are linked in a hierarchical structure and wherein if there is ambiguity with the mode of information to extract from a first category of information, the natural-language processor provides a first response to the user having a plurality of options, the natural-language processor then provides a second response based upon the user's selection from the options as taught by Pustejovsky because it would give a more robust searching system and ensures queries are correct prior to searching hence removing redundancy.

17.   As per claim 27, Sasai teaches transforming the expression input by the user into a question and converting the question into an instruction comprising a query to the database (concept extract unit extract conceptual elements from the input and these conceptual elements are converted into a intention for retrieval by the intention interpretation unit, col. 4, line 45 to col. 5, line 15).

18.   As per claim 28, Sasai teaches presenting the retrieved information to the requestor (output the information to the interfacing unit, col. 5, lines 16-22).

Conclusion

19.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Ball et al. (U.S. Pat. 6,701,294) teaches a natural language query

system that discriminates category ambiguities in the query by prompting the user.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Matthew J. Sked whose telephone number is (571) 272-

7627. The examiner can normally be reached on Mon-Fri (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

W. R. YOUNG
PRIMARY EXAMINER

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